PL6155 Information and Geo-spatial Technology in Disaster Management

Module designation	Information and Geo-spatial Technology in Disaster Management
Semester(s) in which the module is taught	1st Semester (first year of master program)
Person responsible for the module	Saut Aritua Hasiholan Sagala, S.T., M.Sc., Ph.D.
Language	Indonesian
Relation to curriculum	Compulsory - elective for Disaster Mitigation concentration
Teaching methods	Case study, group discussion
Workload (incl. contact hours, self-study hours)	(Estimated) Total workload: around 9 hours per week x 16 weeks = 144 hours ● Contact hours: 2 hours per week = 2 x 16 = 32 hours ● Self-study hours: 7 hours per week = 7 x 16 = 112 hours
Credit points	4 CU/6.67 ECTS
Required and recommended prerequisites for joining the module	-
Module objectives/intended learning outcomes	Able to understand and create geo-spatial and information technology in the study and practice of disaster management
Content	This lecture explains the analytical tools of information technology support disaster management. Some examples of these tools are the analysis of spatial analysis in mapping risks, determining evacuation routes, determination of refugee camps, creating a pool of sea level rise scenarios, etc. Moreover, this course will explain how development in information technology, such as the internet, social networking, cell phones in the risk communication and determination of early warning. In that activities of humanitation and emergency aid, information technology is often used to determine the coordination among the actors involved. Examples of recent cases will be given in this class of relevant cases in Indonesia.
Examination forms	written exam, project report, and oral presentation.
Study and examination requirements	Academic paper assignment, presentation, and exam
Reading list	1. Edmund, C., Penning-Rowsell, Xu, J., Lu, Yu., Earthquake Disaster Prevention and Reconstruction. Taylor & Francis, 2021 2. Raskin et al, Fifty Year Resilience Strategies for Coastal Communities at Risk for Tsunamis, Natural Hazard Review, 2017 3. Francis Roy & Yaives Ferland. Land Use Planning for Disaster Risk Management. Land Tenure Journal, 2015 4. Lopez, L., Ishizaka, A., Qin, Jindong., Carrillo, Pavel., Multi-Criteria Decision-

	Making Sorting Methods. Elsevier, 2023 5. Biswas, A., Mukherjee, J., Majumdar, S., Chatterjee, Uday., Advances in Urbanism, Smart Cities, and Sustainability. Taylor & Francis Group, 2022 6. Gunawan I. Sagala, S., Amin. S, Zawani, H & Mangunsong, R. City Risk Diagnostic for Urban Resilience in Indonesia. World Bank Indonesia, 2015